

CLAIMS

1. An optical information recording/reproducing apparatus comprising a plurality of light sources, one of which emits an optical beam having such a wavelength as enables a larger amount of energy to be absorbed or reflected by recorded areas of a recording layer of an optical information medium than an amount of energy absorbed or reflected by non-recorded areas, said plurality of light sources emitting optical beams simultaneously to record information in an information recording mode.

2. An optical information recording/reproducing apparatus according to claim 1, wherein said plurality of light sources include a first light source and a second light source, at least one of which emits a light beam having a wavelength that enables a change rate of an absorption coefficient of unrecorded areas of the optical information medium to be within a range of $\pm 5\%$ when the wavelength changes in a range of $\pm 10\%$.

3. An optical information recording/reproducing apparatus according to claim 1, wherein said plurality of light sources includes two light sources that are integrally provided for a single casing.

4. An optical information recording/reproducing apparatus according to claim 1, further comprising:
a plane-parallel plate arranged at a predetermined

angle and located at a position to which optical beams emitted from said plurality of light sources are directed.

5 5. An information recording/reproducing apparatus comprising:

 a plurality of light sources; and

 an optical system for enabling optical beams from the light sources to be focused on a single point on a recording surface of an optical information medium,

10 said optical system including an object lens having a focal distance of F_1 and a collimator lens having a focal distance of F_2 , ratio F_2/F_1 being within a range of 4 to 10.

 6. An information recording/reproducing apparatus
15 according to claim 5, wherein said plurality of light sources are contained in one case.

 7. An information recording/reproducing apparatus comprising:

20 a first light source for emitting an optical beam of a first wavelength;

 a second light source for emitting an optical beam of a second wavelength different from the first wavelength;

 an optical system for guiding the optical beams
25 from the first and second light sources along substantially one optical path, said optical system including a prism unit for synthesizing the optical

beams from the first and second light sources together;

a detector for performing photoelectric conversion with respect to optical beams that are reflected by an optical information medium and guided to the detector by way of the object lens; and

a beam diameter varying device, arranged between the first and second light sources and the prism unit, for varying a beam spot diameter of an optical beam emitted from one of the first and second light sources.

10 8. An information recording/reproducing apparatus according to claim 7, wherein said beam diameter varying device is a cylindrical member which changes inner and outer diameters of a light beam incident thereon.

15 9. An information recording/reproducing apparatus according to claim 7, wherein said beam diameter varying device has a light-shielding structure for shielding a central portion of a light beam.

20 10. An information recording/reproducing apparatus according to claim 7, wherein said optical system further includes at least one of a collimator lens.

25 11. An information recording/reproducing apparatus according to claim 10, wherein said beam diameter varying device has a light-shielding structure for shielding a central portion of a light beam output from one of the collimator lens.